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ABSTRACT

Playing in literacy-enriched, sociodramatic play centers is an important component of children's literacy development; yet due to the limited number of available computers in many low-socioeconomic-status urban schools, occasions for children to playfully explore literacy as it relates to technology are frequently absent in the early childhood classroom. Low-socioeconomic-status, culturally diverse children's opportunities for literacy development in computer-enriched, sociodramatic play centers during literature-based thematic units in one early childhood classroom are described. When the teacher (1) shared thematically related literature, (2) guided fact-finding field trips, (3) invited children to help design the play center to include literacy materials and computers (real or make-believe), and (4) engaged in supportive dramatic role-play, the children had numerous opportunities to gain conceptual understanding about the forms and uses of literacy. (Contains 27 references, 2 photographs, a classroom diagram, and a web of unit activities.) (Author/RS)

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Computers Real and Make-Believe: Providing Opportunities for Literacy Development in an Early Childhood Sociodramatic Play Center

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Instructional Resource No. 26
Summer 1996

NRRC

National Reading Research Center

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The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

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Computers Real and Make-Believe: Providing Opportunities for Literacy Development in an Early Childhood Sociodramatic Play Center

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Abstract. *Playing in literacy-enriched, sociodramatic play centers is an important component of children's literacy development; yet due to the limited number of available computers in many low-SES urban schools, occasions for children to playfully explore literacy as it relates to technology is frequently absent in the early childhood classroom. We investigated low-SES, culturally diverse children's opportunities for literacy development in computer-enriched, sociodramatic play centers during literature-based thematic units in one early childhood classroom. When the teacher (1) shared thematically related literature, (2) guided fact-finding field trips, (3) invited children to help design the play center to include literacy materials and computers (real or make-believe), and (4) engaged in supportive dramatic role-play, the children had numerous opportunities to gain conceptual understanding about the forms and uses of literacy.*

"I want to be the florist lady. Let me do the computer and orders." —Shantika

"Okay, then you buy [flowers]. I want to buy some flowers." —Roman

Shantika takes out a pad of paper and pencil.

"Now I ask you why you want them. 'Why do you want to buy some?' Now tell [me]." —Shantika

"Ah, they're for my mommy. For mommy's birthday." (*Giggles*)—Roman

Shantika scribbles on the pad, tears off the top piece of paper, and turns to a cardboard model of a computer that has been set up in the play center. She pretends to type, then takes another piece of paper from a stack of recycled PTO notices.

"Okay, I have the order thing, the order. What kind of flowers you want?" —Shantika

"Two pink. Two blue." —Roman

Shantika draws and then colors two pink and two blue flowers on the paper. She

looks at the play computer screen and shakes her head.

"We don't have no blue."—Shantika

"I'll take two pink and two red." —Roman

Shantika draws a line through the two blue flowers she had drawn, draws two red flowers, then hands the paper to Roman.

"Take this over there [pointing to Isa who sits at a flower arranging table]." —Shantika

"Where do I pay? Pay with my checks?" —Roman

"See me! See me first! I make the flowers first. Come here to me. I'm the . . . Ms. P., what am I?" —Isa

"Isa, you're the florist that arranges the flowers. Remember, like the florist at the shop we visited—the flower arranger?" —Ms. P.

These are a few of the comments made by a group of preschoolers as they laughed and played together in a classroom sociodramatic play center that was set up as a flower shop. One of the unique aspects of Shantika's, Roman's, and Isa's experience is how the teacher, Ms. Phillips, orchestrated activities to support and enhance their opportunities to learn more about literacy and computers within the context of the play center and a unit of study. The purpose of this paper is to provide a detailed description of how the teacher did so during one literature-based unit. In sharing her story, we also offer guidelines for other early childhood teachers who may wish to incorporate literacy props and computers into unit-related play centers.

What are the Benefits of Organized Playtime in the Classroom?

In this section, we first present a brief overview of the benefits for children of organized playtime that highlights: computer play, sociodramatic play, and literacy-enriched play settings. We use the words "organized playtime" to suggest that the teacher is the key orchestrator and organizer of the type of sociodramatic play that we describe in this resource. This view is in contrast to the spontaneous, nonteacher directed or nonteacher organized play of children that occurs frequently on the playground or in other settings. And while we do not mean to suggest that other types of play are without benefit for children, we do suggest that organized playtime offers distinctive occasions for literacy-related play in the classroom.

Although computers are becoming fairly commonplace in elementary school classrooms (Becker, 1991; Market Data Retrieval, 1987), teachers are often hesitant to allow children to play with the computer. In fact, computers in the elementary, primary-level classroom are frequently reserved for creating a final draft/publishing step in a process approach to writing (Dickinson, 1986; Miller & Olson, 1994). Recent research suggests that young children benefit in many ways when they are allowed to explore and play with the computer (Labbo, 1994, 1995; Labbo, Reinking, &

McKenna, 1995, 1996). For example, children who are given time to explore the computer and software functions learn keyboard operations (how to make uppercase and lowercase letters), action schemes (how to manipulate a string of computer operations within a program), and vocabulary terms (metalinguistic language that allows them to share and/or request specific knowledge). This knowledge base, learned through playful exploration and accompanying social interactions with peers and adults, often equips children to accomplish various communicative and personal tasks with the computer. However, little has been learned about the role of the computer as a play center literacy prop in creating opportunities for children's literacy development. Additionally, if a computer is not available, we suggest that placement of a cardboard (or make-believe computer) in a sociodramatic play center offers young children the opportunity to learn concepts related to how the computer fits into the thematic setting. For example, if the sociodramatic play center is set up as a post office, children may learn how the computer may function in this setting.

Sociodramatic (or group dramatic) play in the classroom play center occurs when two or more children reenact stories they have heard or when they role-play real-life situations (Johnson, Christie, & Yawkey, 1987). For more than a decade we have known that sociodramatic play is a central component of young children's learning processes (Johnson, Christie, & Yawkey, 1987; Pelligrini, 1987; Rubin, Fein, & Vanderberg, 1983). In fact, over 20 years ago, Smilanksy (1968) characterized many of the cognitive, linguistic, and social competencies required by children in this type of play in a play inventory that includes the following elements:

- *Role-playing*: Communicating and adopting role-appropriate behavior.
- *Make-Believe Transformation*: Using symbols to stand for objects through language or actions (pretending to type or saying "I'm typing").
- *Social Interaction*: Agreeing through language and actions to interact with other players in connection to the play theme.
- *Verbal Communication*: Organizing and structuring play (metacommunication) and making pretend statements (appropriate to the role, e.g., "What kind of flowers do you want to buy?").
- *Persistence*: Engaging in sustained play episodes.

According to Piagetian theory (Piaget, 1962), when children play, they incorporate their play experiences into an existing cognitive structure of how the world works. Educators and researchers, who are oriented to a Piagetian view of child development, suggest that when young children play, they may refine existing cognitive concepts or even construct new concepts (Glickman, 1979; Pellegrini, 1984; Piaget, 1962). Additionally, it has been posited that as children encounter social conflicts with peers during play, they are exposed to new perspectives, they experience a resulting cognitive conflict, and they often attempt problem-solving strategies that provide occa-

sions for expanding their conceptual schemata (Pelligrini, 1984; Piaget, 1962; Rubin, 1980). Thus, when teachers enrich play settings with literacy props, various occasions also arise for children to deal with literacy-related activities (Neuman & Roskos, 1991). These situations range from refining understanding of literacy-related roles (e.g., "You're supposed to read the menu, then order the food.") to assisting peers in accomplishing literacy-related tasks (e.g., "You listen to how it sounds, then spell it out.").

How do you Organize the use of Computers and Literacy Props into Playtime?

The four guidelines that we suggest for organizing computers and literacy props into play centers during literature-based thematic units are drawn from how Ms. Phillips organized and orchestrated elements of a unit she wrote. These guidelines include: (1) creating thematic literature units; (2) inviting the children to help plan and then guiding a fact-finding field trip; (3) inviting the children to use information gained from books and the field trip to help design the play center to include literacy materials and computers (real or make-believe); and (4) supporting playtime interactions and role playing. In the following sections, we provide details taken from an author unit on Lois Ehlert in order to flesh out these guidelines with a practical scenario.

Creating Thematic Literature Units

Ms. Phillips' preschool class of 25 children consisted of 23 culturally diverse students who were on free or reduced lunch. Four of the children had English as a second language. Over half of the children came from single-parent homes where the mother was the primary caregiver. Because the children had few previous experiences with storybooks at home, Ms. Phillips wanted to immerse them in listening and responding to high quality children's literature in the classroom. Furthermore, she believed that organizing books into units would provide children with a sense of continuity across books that would also provide a springboard for various connected classroom activities (Cullinan, 1989; Huck, Hepler, & Hickman, 1993).

Literature units are groups of books that are connected by a common element (e.g., genre, topic, theme, author). By listening to and discussing books, children can grasp the notion that authors help us explore our feelings about different topics. Books also help us understand how authors and artists think about different topics, and that informational books are storehouses of knowledge. By reading aloud and discussing a set of books that were connected, Ms. Phillips hoped to: (1) introduce children to the delight and enchantment of stories; (2) introduce children to a variety of children's literature in organized ways (Moss, 1978, 1984); (3) help children develop insights into oral language (Chomsky, 1972; Teale, 1986); (4) help children understand the character and forms of written language (Holdaway, 1979; Purcell-Gates, 1988); and (5) set the stage and provide background knowledge for learning about a topic or theme (Lamme, 1981). She also hoped that books shared during author/illustrator studies would help children be able to recognize their unique

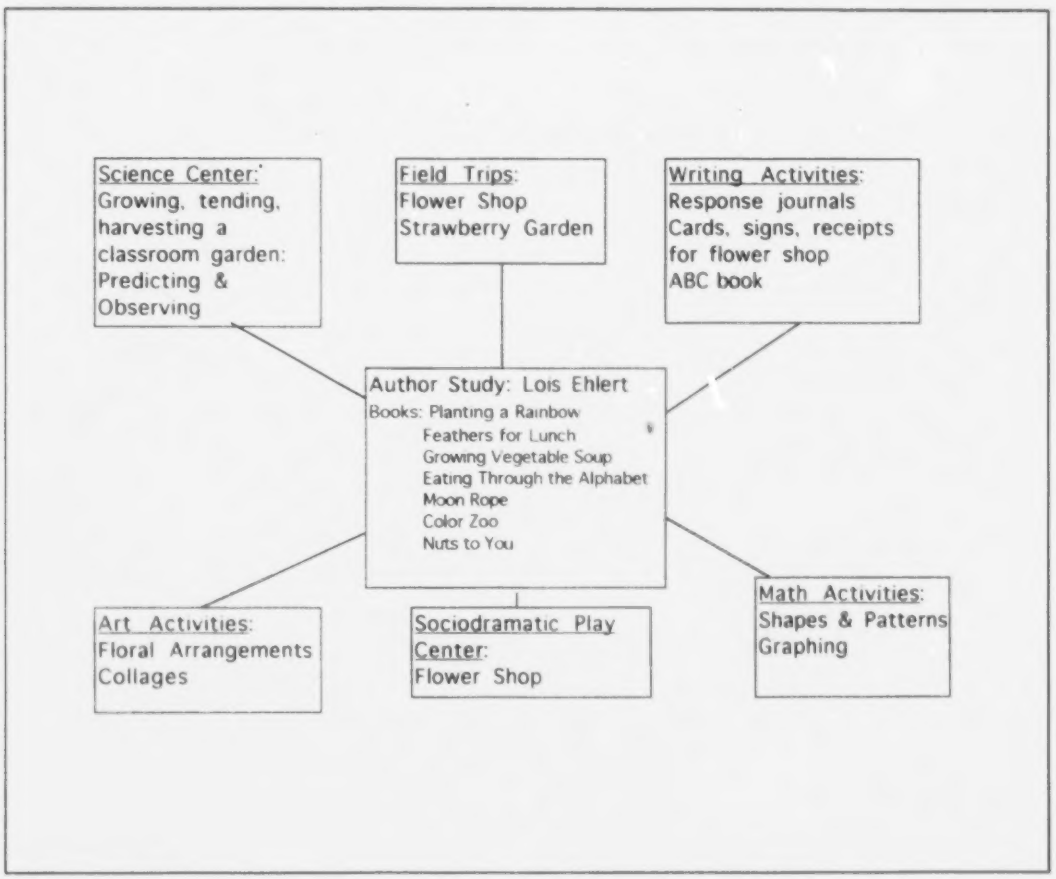

Figure 1. Web of unit activities.

styles and favorite topics or themes. For example, the following books that were shared during the author study on Lois Ehlert were connected by the topic of appreciating the growth and beauty of living things and by her distinctive, colorful illustrations. (The Appendix includes a copy of the unit.)

Lois Ehlert: Growing and Planting Things

Planting a Rainbow
Feathers for Lunch
Growing Vegetable Soup
Eating Through the Alphabet
Moon Rope
Nuts to You
Color Zoo

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After selecting the books and focus for the unit, Ms. Phillips followed principles of literature unit writing set out by Roser, Hoffman, Labbo, & Farest (1995) and planned a web of unit activities that consisted of: science center activities, field trips, writing activities, art activities, sociodramatic play center activities, and math activities (see Figure 1).

By using children's books as a springboard for activities in various centers, Ms. Phillips hoped to coordinate and expand their opportunities to learn both information they could use in the unit and thinking/procedural processes for gaining information. For example, after hearing *Growing Vegetable Soup*, the teacher guided children in a scientific process in the science center of making predictions, observing, and learning about planting, growing, tending, and harvesting plants. During art activities of making floral arrangements and creating flower collages after listening to *Planting a Rainbow*, she guided children in an aesthetic process of creating and appreciating texture, color, and shape. During math activities, children made a graph of their favorite flowers and repeated color patterns with construction paper after listening to *Nuts to You*. After listening to and discussing *Eating Through the Alphabet*, children in the writing center made their own alphabet page of a plant that represented a letter of the alphabet, to include in a class-created book entitled, *Planting an Alphabet Garden*.

Inviting the Children to Help Plan and Then Guiding a Fact-Finding Field Trip

Like some other 4-year-olds, many of the children in Ms. Phillips class had few experiences in going to a variety of places in the community. Therefore, she wanted to plan fact-finding field trip excursions that would enrich children's schema in ways that the unit focus could build upon. This section describes how this teacher set up children's experiences to maximize their opportunities for learning before, during, and after the field trip.

Before the children went on the field trip to a local flower shop, the teacher helped children generate questions and elicited comments about their predictions about what they would see. As the children responded orally to her open-ended questions, Ms. Phillips wrote their comments on a chart tablet that all the children could see. Because she wanted children to understand how literacy and computers were used in this work place context, she also steered questions in those directions as indicated in the following scenario that is taken from a transcript.

T: "We're going on a field trip to a flower shop. We're going to learn so much, and when we get back, we're going to use all the things we learn to help us set up our own flower shop in the play center."

(Children cheer and clap.)

"Okay, before we go on our trip, I want us to think about what we might see at the flower shop? Shantika?"

S: "Flowers." (Teacher writes the word *flowers* on the chart paper.)

T: "Yes, flowers. What else? Isa?"

S: "People." (Teacher writes the word *people* on the chart paper.)

Figure 2. Flower shop manager explains how the computer is used to help run the business.

T: "Okay, and what might the people be doing there?"

S: "I don't know."

S: "I just had a good idea. Why don't we write down all of our questions that we don't know so we can remember what we want to ask when we get there. (Children cheer and clap.)

'Okay, so I want to write down (dictating to herself as she writes on the board) 'Who are the workers and what do they do at the flower shop?'"

T: "You know, if we're going to set up our own flower shop in the play center, don't you think we should find out about how they use their computer and how they take orders and stuff?" (Children all nod their heads.) "That way, we'll know how to set up and play in our own flower shop." (Teacher dictates to herself and writes "How do you use the computer in the flower shop?" "How do you use reading and writing?")

During the field trip, the children went on a tour of the flower shop that was conducted by one of the managers. The teacher unfolded their list of questions, and she and the children chorally reread the list in order to remember questions they wanted to ask the manager. This lead to an informal interview where the teacher wrote down the ideas the managers and workers

Figure 3. Students observe florist creating a flower arrangement.

shared with the children. For example, after asking about the use of computers, one of the managers invited the children to come into his office (see Figure 2). He explained how the computer was used: (a) as a word processor to do correspondence; (b) as a sort of fax machine to receive "wired" orders for flowers from out-of-city locations or to out-of-city locations; (c) as an automatic inventory of flowers they have on hand; (d) as a place to order more flowers; (e) as a record of customers by zip codes; (f) as a place to print out receipts, and so on. The children learned how the flower shop was organized and run. They also observed one of the florist creating a flower arrangement (see Figure 3).

Inviting the Children to Use Information Gained from Books and the Field Trip to Help Design the Play Center to Include Literacy Materials and Computers (Real or Make-Believe)

After the field trip, the teacher posted the chart paper with the questions on an easel and then read the answers from the notes she took during the field trip. This lead to a lively discussion with the children about what they had learned about flower shops during their field trip. Then the teacher guided the children in:

- planning the center
- recalling information from literature and experiences

- gathering literacy props related to the theme
- transition into playtime—setting the stage

As children planned how to design the center as a flower shop, they recalled information they had gained from both reading books and from going on the field trip. They also gathered or made literacy props to use in the center that included a cardboard model of a computer that a local office furniture store had donated. These props included the following.

- A cardboard model of a computer and printer
- Pads of paper and pencils for taking orders
- Order forms (recycled Parent Teacher Organization Letters)
- Two wooden play telephones
- Cards children made in the art center for various occasions (Birthday, Anniversary, Sympathy, Get Well, Missing You)
- A sign for the shop
- Play money, voided checks donated by a local bank, and ballpoint pens
- Signs for prices to accompany illustrations of various floral arrangements
- A play cash register

The teacher helped the children set the stage for playing in the center by helping them arrange the furniture in the play center as a flower shop. Figure 4 is a diagram of how the center was arranged.

Supporting Playtime Interactions and Role Playing

Ms. Phillips supported children's playtime in the following five ways.

First, she held informal preplay conferences with children who signed up to play in the center. For example, before children began to play in the center, she asked them who would take what roles (i.e., who will be the store manager, sales person, flower arranger, customer?), what each person did, and so on.

Second, initially she participated in a playing role. For example, the teacher first took on the role of a customer. In taking this role, she became a participant but also a supportive director of action (i.e., "I need to buy some flowers for my parent's wedding anniversary. Now you need to show me some of your pictures of flower arrangements so I can decide which one I want.").

Third, she was available, or within earshot, to offer technical computer and literacy assistance. For example, if the children decided they needed a computer-generated form or greeting card, the teacher was on hand to help them use the classroom computer to accomplish their goal and then ease back into a play scenario. On other occasions, she reminded children, such as Isa, seen in Figure 5, about how the manager used the computer to order flowers.

Fourth, she facilitated children's problem solving abilities (i.e., resolving conflicts). For example, if children were having trouble

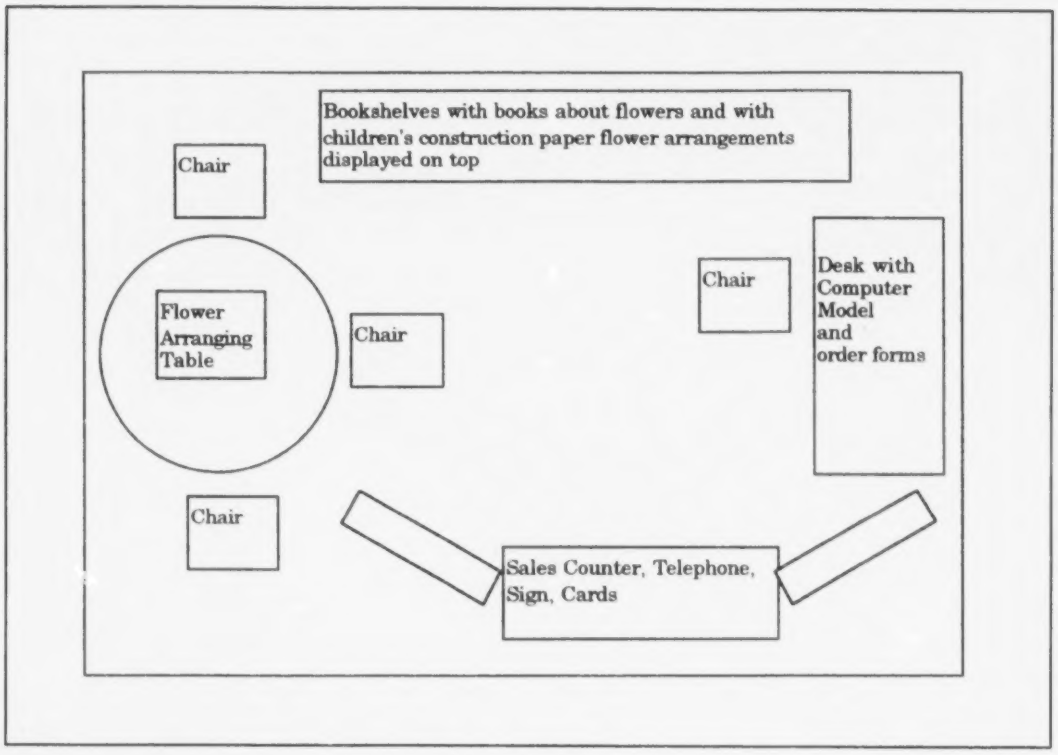
Bookshelves with books about flowers and with children's construction paper flower arrangements displayed on top
Chair
Chair
Desk with Computer Model and order forms
Flower Arranging Table
Chair
Chair
Sales Counter, Telephone, Sign, Cards

Figure 4. Diagram of classroom "Flower Shop" center.

agreeing on flower shop workers' responsibilities, the teacher would help them remember facts they had learned during their field trip.

Fifth, she invited children to record their sociodramatic play experiences in various ways. For example, parents were invited to come into the flower shop during the 2-week unit and participate in the play center as a customer. Parents used play money the children had created or blank and voided checks donated from a local bank to purchase arrangements made by the children. Children then either wrote or dictated, illustrated, and reread stories about their experiences in the play center. These stories were typed by the teacher's aide or by a parent volunteer on the computer and then displayed in a class book to be shared with parents when they visited the classroom.

Concluding Comments

Our observations of the children's experiences during the unit, examinations of their unit-related work, as well as analysis of open-ended interviews we conducted with the children

Figure 5. Isa acts out what she learned about how the manager uses the computer in the flower shop.

after the unit lead us to ponder about what the children had learned. We and the teacher believe that their experiences with quality children's literature, their experiences during fact-finding during field trips, their experiences in planning the play center, and their experiences playing in the literacy prop-enriched center all contributed to their growing knowledge about the following components of literacy.

- Work place functions of literacy that include the computer
- Work place forms of literacy that include the computer
- Oral language interactions that are appropriate to the scenario
- Schema building of related concepts (how flower shops work, the role of technology in running businesses and services)
- Life-to-text connections: Using background knowledge to make connections with literature

We found that when children are invited to plan for and play in centers, they have numerous opportunities to explore the functions and forms of literacy. In the best case scenario, a real computer should be placed in the center. This allows children the access to word or art

processing programs that might allow them to incorporate the immediate application of computer operations and productions into their play. However, if that is not possible, the next best thing would be the inclusion of the make-believe computer.

When the children in Ms. Phillips' classroom played with a cardboard model of a computer, they incorporated what they had learned from a field trip about how to use the computer into their play scenarios. Thus, they were able to build conceptual knowledge about how computers work in the workplace. Additionally, they did have access to the Macintosh in the classroom computer center. This access helped them create props and explore symbol making on the computer. We encourage teachers to plan units that include the use of literature, literacy props, and computers in play centers.

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APPENDIX

Lois Ehlert Author Unit

Connecting Topic: Growing and Planting Things

Goals for Reading Books and Conducting a Field Trip:

Reading books helps us understand:

- living things grow
- people plant, tend, and harvest flowers and plants
- authors and artists help us think about how we feel about flowers and plants

Going on a field trip to a flower shop helps us understand:

- why and how people send and receive flowers
- how the flower shop business is conducted
- the functions of literacy in this work place setting
- the use of the computer in this work place setting
- how to plan and set up a play center flower shop
- how to aesthetically arrange flowers

Books: Planting a Rainbow
Feathers for Lunch
Growing Vegetable Soup
Eating Through the Alphabet
Moon Rope
Nuts to You
Color Zoo

Literacy Props to Have on Hand for the Sociodramatic Play Center:

- A cardboard model of a computer and printer
- Pads of paper and pencils for taking orders
- Order forms (recycled Parent Teacher Organization Letters)
- Two wooden play telephones

* Cards children made in the art center for various occasions (Birthday, Anniversary, Sympathy, Get Well, Missing You)

** A sign for the shop

- Play money, voided checks donated by a local bank, and ballpoint pens

** Signs for prices to accompany illustrations of various floral arrangements

- A play cash register

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* Art Center Activity
** Made by hand or with the classroom computer

Kick Off Activity for the Unit:

Display a floral arrangement and greeting/enclosure cards from the local Flower Shop. Ask the children to talk about where they think the flowers and the arrangement came from. Display the books to be shared during the unit. Tell the children that Lois Ehlert likes to write and illustrate books that have big bold colors, just like the colors in the flower arrangement. Tell the children that they will be learning more about where the flowers came from, how to design flower arrangements, and how to set up their own flower shop in the play center. Read one of the suggested books.

During the Unit:

Before the field trip:

- Help children plan the field trip in ways that will help them set up their own sociodramatic play flower shop. Be sure to call children's attention to the classroom computer and guide them to think about what they need to know about the computer and how it is used at the flower shop. Write their questions/comments/expectations on chart paper that can be referred to during and after the field trip.

- Contact the flower shop owner/manager and give them ideas for how to conduct the flower shop tour and how to answer children's questions.

After the field trip:

- Let the children dictate and write an illustrated thank you note to the manager/owner.

- In whole group, invite children to list all of the things they learned about that will help them set up their own sociodramatic play center flower shop.

- Allow children to work in centers to get props ready for the flower shop (e.g., flower arrangements and cards in the art center).

- In initial stages of children's play in the center, take on a role of a person who wants to buy flowers and remind children of expected, role-appropriate behaviors to facilitate their play. After one or two supported sessions, remain within earshot to offer continued assistance. Use these occasions to observe how the children are using the literacy props in the center. What are their opportunities for gaining insights into literacy?

Culminating Activity:

Invite Parents to attend a celebration of the unit. Children may take turns being the store manager and "selling" flower arrangements they have made to their parents. Display children's art work and stories.

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